

AMENDMENTS TO THE CLAIMS

1-15. (Cancelled)

16. (Currently Amended) A task scheduling apparatus for parallelly processing a plurality of tasks, each of the tasks being assigned a priority, with priorities and the plurality of tasks including one or more tasks each having one or more signal handlers, the one or more signal handlers each being assigned a priority with priorities, the task scheduling apparatus comprising:

a signal-handler registering section for registering the one or more respective signal handlers of the one or more tasks, signals corresponding to the one or more respective signal handlers, and the priorities assigned to[[of]] the one or more respective signal handlers while relating them to each other;

a signal generating section for generating a signal for designating a signal handler; and a selection executing section for specifying an object signal handler as a signal handler corresponding to the generated signal and a priority thereof by referring to contents registered by the signal handler registering section, and executing the one having a highest priority out of the plurality of tasks and the object signal handler.

a priority table for recording the plurality of tasks and the priorities thereof while relating them to each other, wherein the plurality of tasks include a signal-handler processing task which is assigned a variable priority, the signal-handler processing task includes a queue in which at least one signal handler to be executed is registered, and the signal-handler processing task causes to be executed a signal handler having a highest priority out of the at least one signal handler registered in the queue upon the signal-handler processing task being called and executed; and

a selection executing section including

a signal notifying section for specifying the signal handler designated by the generated signal as an object signal handler and assigning a priority to the object signal handler by referring to contents registered by the signal-handler registering section, and registering the object signal handler in the queue,

a priority changing section for specifying the signal handler having the highest priority out of the at least one signal handler registered in the queue by referring to the

contents registered by the signal-handler registering section when the content registered in the queue has been changed, and changing the variable priority of the signal-handler processing task recorded in the priority table to the priority of the specified highest priority signal handler,

a selecting section for selecting a task from among the plurality of tasks corresponding to a highest priority of the plurality of priorities recorded in the priority table as an object to be executed by referring to the priority table, and
an executing section for executing the task selected by the selecting section.

17. (Cancelled)

18. (Currently Amended) A task scheduling apparatus according to claim 16[[17]], wherein the signal notifying section deletes, from the priority table, the recorded content relating to the tasksignalhandler whose execution has been completed from the priority table when the executing section completes the execution of the tasksignalhandler.

19 - 21. (Cancelled)

22. (Currently Amended) A task scheduling apparatus according to claim 16[[21]], wherein the signal-handler processing task deletes, from the queue, the registration of the highest priority signal handler whose execution has been completed from the queue when the execution of the highest priority signal handler is completed.

23. (Cancelled)

24. (Cancelled)

25. (Currently Amended) A task scheduling apparatus according to claim 16[[21]], further comprising a task registering section for registering the priorities of the one or more tasks in the priority table upon a registration instruction from the one or more tasks.

26. (Cancelled)

27. (Cancelled)

28. (Original) A task scheduling apparatus according to claim 25, wherein the task registering section changes the priorities of the one or more tasks registered in the priority table upon a change instruction from the one or more tasks.

29. (Currently Amended) A task scheduling apparatus for parallelly processing a plurality of tasks, each of the tasks being assigned a priority, and the plurality of tasks including one or more tasks each having one or more signal handlers, the one or more signal handlers each being assigned a priority, the task scheduling apparatus comprising:

a signal-handler registering section for registering the one or more signal handlers of the one or more tasks, signals corresponding to the one or more signal handlers, and the priorities assigned to the one or more signal handlers while relating them to each other;

a signal generating section for generating a signal for designating a signal handler;

a priority table for recording the plurality of tasks and the priorities of the plurality of tasks while relating them to each other;

a task registering section for registering the priorities of the one or more tasks in the priority table upon a registration instruction from the one or more tasks, wherein the task registering section changes the priorities of the one or more tasks registered in the priority table upon a change instruction from the one or more tasks;

a selection executing section including:

a signal notifying section for specifying the signal handler designated by the generated signal as an object signal handler and assigning a priority to the object signal handler by referring to the contents registered by the signal-handler registering section, and recording the object signal handler and the priority of the object signal handler in the priority table while relating them to each other,

a selecting section for selecting a task or a signal handler having a highest priority out of the plurality of priorities recorded in the priority table as an object to be executed by referring to the priority table, and

an executing section for executing the task or the signal handler selected by the selecting section;

~~A task scheduling apparatus according to claim 26, further comprising:~~

a buffer for temporarily storing data outputted from a specific task, the specific task being~~which is~~ one of the one or more tasks~~[[,]]~~ and

a buffer administering section for notifying~~making a notification to~~ the signal generating section when an amount of the data stored in the buffer falls below a predetermined reference amount,

wherein the specific task includes a specific signal handler for causing the task registering section to change the priority of the specific task registered in the priority table to a higher value by giving an instruction to the task registering section, and the signal generating section generates a signal corresponding to the specific signal handler upon receiving the notification from the buffer administering section.

30. (Cancelled)

31. (Currently Amended) A task scheduling apparatus according to claim 28, further comprising:

a buffer for temporarily storing data outputted from a specific task, the specific task being~~which is~~ one of the one or more tasks, and

a buffer administering section for notifying~~making a notification to~~ the signal generating section when an amount of the data stored in the buffer falls below a predetermined reference amount,

wherein the specific task includes a specific signal handler for causing the task registering section to change the priority of the specific task registered in the priority table to a higher value by giving an instruction to the task registering section, and the signal generating section generates a signal corresponding to the specific signal handler upon receiving the notification from the buffer administering section.

32. (Currently Amended) A task scheduling apparatus according to claim 16, further comprising a signal-handler table in which the signal-handler registering section registers the one

~~or more~~~~respective~~ signal handlers of the one or more tasks, the signals corresponding to the ~~one~~ or ~~more~~~~respective~~ signal handlers, and the priorities ~~assigned to the one or more~~~~of the respective~~ signal handlers while relating them to each other, wherein the selection executing section refers to the signal-handler table as the contents registered by the signal-handler registering section.

33. (Currently Amended) A task scheduling method for parallelly processing a plurality of tasks, ~~each of the tasks being assigned a priority, with priorities and the plurality of tasks~~ including one or more tasks each having one or more signal handlers, ~~the one or more signal handlers each being assigned a priority with priorities, the task scheduling method comprising:~~

~~a signal-handler registering step of registering the one or more~~~~respective~~ signal handlers of the one or more tasks, signals corresponding to the ~~one or more~~~~respective~~ signal handlers, and the priorities ~~assigned to the one or more~~~~of the respective~~ signal handlers while relating them to each other;

~~a priority table recording step of recording, in a priority table, the plurality of tasks and the priorities thereof while relating them to each other, wherein the plurality of tasks include a signal-handler processing task which is assigned a variable priority, the signal-handler processing task includes a queue in which at least one signal handler to be executed is registered, and the signal-handler processing task causes to be executed a signal handler having a highest priority out of the at least one signal handler registered in the queue upon the signal-handler processing task being called and executed; and~~

~~a signal generating step of generating a signal; and~~

~~a selection executing step of specifying an object signal handler as a signal handler corresponding to the generated signal and a priority thereof by referring to contents registered by the signal handler registering step, and executing the one having a highest priority out of the plurality of tasks and the object signal handler[.]~~

a selection executing step including:

a signal notifying step of specifying the signal handler designated by the generated signal as an object signal handler and assigning a priority to the object signal handler by referring to contents registered by the signal-handler registering section, and registering the object signal handler in the queue.

a priority changing step of specifying the signal handler having the highest priority out of the at least one signal handler registered in the queue by referring to the contents registered by the signal-handler registering section when the content registered in the queue has been changed, and changing the variable priority of the signal-handler processing task recorded in the priority table to the priority of the specified highest priority signal handler,

a selecting step of selecting the task from among the plurality of tasks corresponding to a highest priority of the plurality of priorities recorded in the priority table as an object to be executed by referring to the priority table; and

an executing step of executing the task selected by the selecting step.

34. (Currently Amended) A computer-readable storage medium storing a task scheduling program for causing a computer to function as a task scheduling apparatus for parallelly processing a plurality of tasks, each plurality of task being assigned a priority, with priorities and the plurality of tasks including one or more tasks each having one or more signal handlers, the one or more signal handlers each being assigned a priority with priorities, the computer functioning as:

a signal-handler registering section means for registering the one or more respective signal handlers of the one or more tasks, signals corresponding to the one or more respective signal handlers, and the priorities assigned to [[of]] the one or more respective signal handlers while relating them to each other;

a signal generating section means for generating a signal for designating a signal handler; and

~~a selection executing means for specifying an object signal handler as a signal handler corresponding to the generated signal and a priority thereof by referring to contents registered by the signal handler registering means, and executing the one having a highest priority out of the plurality of tasks and the object signal handler[.]~~

a priority table for recording the plurality of tasks and the priorities thereof while relating them to each other, wherein the plurality of tasks include a signal-handler processing task which is assigned a variable priority, the signal-handler processing task includes a queue in which at least one signal handler to be executed is registered, and the signal-handler processing task

causes to be executed a signal handler having a highest priority out of the at least one signal handler registered in the queue upon the signal-handler processing task being called and executed; and

a selection executing section including

a signal notifying section for specifying the signal handler designated by the generated signal as an object signal handler and assigning a priority to the object signal handler by referring to contents registered by the signal-handler registering section, and registering the object signal handler in the queue,

a priority changing section for specifying the signal handler having the highest priority out of the at least one signal handler registered in the queue by referring to the contents registered by the signal-handler registering section when the content registered in the queue has been changed, and changing the variable priority of the signal-handler processing task recorded in the priority table to the priority of the specified highest priority signal handler,

a selecting section for selecting a task from among the plurality of tasks corresponding to a highest priority of the plurality of priorities recorded in the priority table as an object to be executed by referring to the priority table, and

an executing section for executing the task selected by the selecting section.

35. (Cancelled)